

## 2020-2021 Mountain Lion Hunting Seasons/Quota Ranges Justifications

<b>Mountain Lion .....</b>	<b>1</b>
<u>HDs 130, 132, 140, 150, 151, 170, 211, 212, 213, 214, 217, 404, 411 412, 421, 444, 449, 452, 500, 502, 530, 570, 575, 590, 611, 620, 640, 641, 651, 670, 680 &amp; 690: See boundary changes justifications</u>	
<u>HDs 100, 101, 102, 103, 104, 109, 110, 120, 121, 122, 123, 124, 130 .....</u>	<u>1</u>
<u>HDs 500, 502, 530, 570 575 &amp; 590 .....</u>	<u>5</u>

# 2020-2021 Mountain Lion Hunting Seasons/Quota Ranges Justifications

## MONTANA FISH, WILDLIFE & PARKS HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

**Species: Mountain Lion**

**Hunting Districts: 100, 101, 102, 103, 104, 109, 110, 120, 121, 122, 123, 124, 130**

**Year: 2019**

- 1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

This proposal would replace the male subquota and overall quota for the above listed hunting districts with a separate male and female licenses for each hunting district. For example, in HD 100, we currently have a total quota of 24 mountain lions, with a subquota of 12 males. This proposal would replace the current system with an issuance of 12 female special lion licenses and 12 male special lion licenses for that particular hunting district. The number of licenses issued would change depending on desired harvest levels for each sex. A lion hunter with either a male or female license could use it for either sex during the archery only and fall season without dogs in any open mountain lion hunting district. Lion hunters holding a general mountain lion license would be eligible to hunt the above districts during the fall archery and general rifle season. Lions harvested during the fall archery and general rifle season would not influence the winter season license holder or the winter season harvest. Male licenses would be available through a random drawing and hunters based on a first choice on the application. Female licenses would be available through both first and second choice applications, with those indicating first choice being drawn first.

In northwest Montana, mountain lion harvest has fluctuated in response to harvest restrictions, as well as population status. Prior to 1986, harvest was unlimited; however, in response to increasing concerns of overharvest, a quota system was adopted in Region 1 in 1986. Harvest was then managed with a total quota and female subquota system through 1994, followed by a total quota system through 1999. Harvest steadily increased from the late 1980s (66 individuals in 1989) to the late 1990s (243 individuals in 1998). During this time period, quotas were increased; however, hunter success rate increased, as well (55% in 1986 to 98% in 1998). In fact, quotas were exceeded in 1995 and 1997. This boom in mountain lion harvest began to dramatically decline in 1999, as did success rate. In 2000, managers attempted to reduce harvest by restricting nonresident harvest through a special lion license obtained through a drawing; however, this system was abandoned in 2005 because of repeated over-harvest in some hunting districts.

In 2005, a hybrid season consisting of a combination of limited entry permits and a harvest quota system was initiated. From 2005 to 2013, most of Region 1 was managed with a female subquota. Since the initiation of this system in 2005, mountain lion harvest has been managed well and over-harvest has not been an issue. In 2013, the Commission passed a male subquota, limit-based system for Region 1, and in 2014, this harvest system was initiated. This new male subquota, instead of a female subquota was to restrict harvest of adult males, to maintain a stable social structure and older age class males on the landscape.

Since 2014, mountain lion hunting in Region 1 has been open to both resident and nonresident hunters by general season or by drawing a special license, depending on hunting district. Harvest of mountain lions was by Special Lion License, obtained through a drawing, in hunting districts 100, 101, 102, 103, 104, 109, 110, 120, 121, 122, 123, 124, and 130. In Hunting Districts 132, 140, 141, 150, 151, and 170 hunters could harvest a lion using a General Lion License. Legal animals included adult male and female mountains lions. It was not legal to kill a female mountain lion with kittens or any mountain lion with body spots. Harvest limit was restricted to one mountain lion per hunter. Hunting seasons for mountain lions during regulatory year 2014-2015 for all hunting districts, except HDs 150 and 151, were as follows:

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Sept 06-Oct 19: Archery only, without dogs  
Oct 25-Nov 30: Fall season, without dogs  
Dec 01-April 14: Winter season, with dogs

Under the current system, each hunting district in Region 1 maintained separate harvest quotas and male subquotas. Once 20% of the available quota was reached during the Archery Only or Fall Season, or a combination of the two, the corresponding season was closed until the winter season. This restriction ensured that 80% of the harvest is reserved for the winter season. Once the male subquota was reached in a hunting district, males could no longer be harvested. The season completely closed when the total quota for a hunting district was reached.

### **2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

The objective of this proposed change is two-fold: 1) to have increased control over the impact of harvest on the population numbers and 2) to increase hunter satisfaction. First, by having separate female and male licenses, the biologist will have more control over mountain lion harvest and the impact on the population of mountain lions in the ecoregion. Adult female mountain lion harvest is additive to female survival within a population and therefore drives the overall population status. Therefore, controlling the number of females harvested allows the biologist to better achieve management goals, such as increasing, decreasing, or holding population numbers stable. Having this type of control over female harvest will improve management, especially once we have completed the genetic-based population estimate for lions in Ecoregion 1 this winter. Under the current system, males are typically harvested first and in several hunting districts, the overall harvest limit is never reached, as hunters are less likely to harvest a female once the male subquota is reached.

The second objective of this proposal is to increase hunter satisfaction. Currently, most hunters apply for a special lion license in anticipation of harvesting a large male mountain lion. In some districts, these male subquotas are filled before some of the hunters can even get into the field. This results in disappointed hunters and complaints to department staff. If hunters were allowed the opportunity to put in for either a male or female license, then they would know that the season will not be shut down prior to having a chance to harvest a lion.

### **3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints, etc.**

Success will be measured by fewer complaints to department staff regarding subquota closures, and increased ability to manage lion populations to meet management goals. In addition, under this new system, there will be no need to track subquotas and close seasons for those districts. Individuals interested in harvesting a male lion will have the opportunity to apply for a male license specifically, and hunters willing to harvest a female lion will have an increased opportunity to hunt lions in Region 1.

### **4. What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

Based on the Garnet Mountain density estimates, Robinson et al. (2015) estimated the initial starting population in Region 1 at 1101 individuals in 2005. Under the combined permit and quota system, the mean estimated population growth rate between 2005-2010 ranged from  $1.01 \pm 0.04$  to  $1.02 \pm 0.04$ . This change in management also resulted in a higher percentage of older individuals ( $\geq 3$  years) in the harvest ( $55 \pm 6\%$  from 2005-2013), with an average harvest of  $108 \pm 25$  individuals per year. In 2013, the Commission passed a male subquota, limit-based system for Region 1, and in 2014, this harvest system was initiated. The resulting 2014 harvest of 100 individuals was within the average annual harvest for 2005-2013; however, the percent of older individuals in the harvest dropped to 35%.

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In addition to age structure, monitoring the sex ratio of harvested animals is a critical component in managing mountain lion populations. Harvest-related mortality of adult female mountain lions is additive to overall survival rates of a population. From 2005 to 2013, most of Region 1 was managed with a female subquota, during which time  $29 \pm 7\%$  of harvested individuals that were aged were adult females ( $\geq 2$  years). With the current male subquota system, this percentage remained the same in 2014 (30%). Since 2014, harvest has remained relatively stable.

- 5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).**

Most of these hunting districts are primarily public land or timber company lands with excellent hunter access. Many areas have a high road density. Northwestern Montana typically has good snow conditions during the winter season allowing for high hunter harvest at times, and the ability overshoot quotas. This proposal won't change access, and will eliminate the need to monitor subquotas and close seasons.

- 6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).**

This proposed regulatory change has been discussed with various hound hunters, sportsmen and sportswomen. The proposal was also discussed at a northwestern Montana outfitters meeting in April 2019, receiving no negative responses at that time. However, subsequent conversations with at least one local outfitter indicated a lack of support for the proposal. We do expect some level of dissatisfaction over this proposal from outfitters. We also expect the time it takes to draw a male license to increase over what it is currently for a special license that applies to both males and females. We have considered requesting a wait period for individuals who draw a license. Legislative approval is needed to institute a wait period for special lion licenses. Should this proposal go forward we will approach the legislature to pass a bill giving the Commission authority to institute a wait period for successful applicants. This change was discussed with Flathead Wildlife members at a monthly meeting. The majority of response from the public has been in support of this proposal.

Submitted by: Jessy Coltrane, Area Wildlife Biologist

Date: 10/17/2019

Approved: \_\_\_\_\_  
Regional Supervisor / Date

Disapproved / Modified by: \_\_\_\_\_  
Name / Date

Reason for Modification:

# 2020-2021 Mountain Lion Hunting Seasons/Quota Ranges Justifications

## MONTANA FISH, WILDLIFE & PARKS HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

**Species: Mountain Lion**

**Region: 5**

**Hunting District: 500, 502, 530, 570, 575, 590**

**Year: 2020**

**1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

The Montana Mountain Lion Monitoring and Management Strategy defines the Region 5 Eastern Ecoregion as Deer/Elk HDs 500, 502, 530, 570, 575 and 590. These HDs are primarily made up of private land. The lion management strategy in these HDs is have season types that maximize private landowner's flexibility to manage lions on their property. As such lions in each of these HDs have long been managed with a liberal quota and no female sub-quota.

The Montana Mountain Lion Monitoring and Management Strategy raises the possibility of simplifying lion season structure by managing on an ecoregion basis. This proposal simplifies regulations by combining HDs 500, 502, 530, 570, 575 and 590 into one management unit with a single lion harvest quota for the entire R5 Eastern Ecoregion.

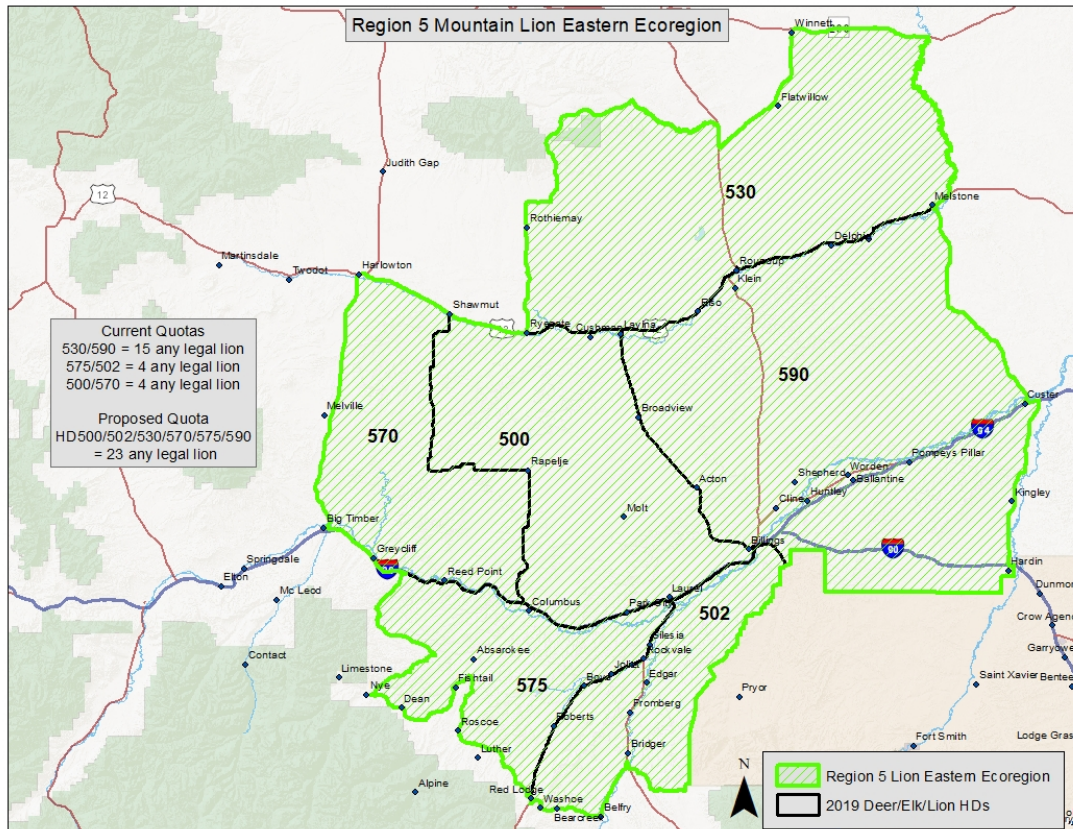
**Change From:**

		Any Legal Lion	Harvest Quota Female Sub-quota
HDs 500 & 570			
	Dec 01 – Apr 14	4	-
Combined Archery and Fall			
	Sept 6-Oct 19 and Oct 19 – Nov 29	1	-
HDs 502 & 575			
	Dec 01 – Apr 14	4	-
Combined Archery and Fall			
	Sept 6-Oct 19 and Oct 19 – Nov 29	1	-
HDs 530 & 590			
	Dec 01 – Apr 14	15	-
Combined Archery and Fall			
	Sept 6-Oct 19 and Oct 19 – Nov 29	3	-

**Change To:**

		Any Legal Lion	Harvest Quota Female Sub-quota
HDs 500, 502, 530, 570, 575, 590			
	Dec 01 – Apr 14	23	-
Combined Archery and Fall			
	Sept 6-Oct 19 and Oct 19 – Nov 29	5	-

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Season structure and harvest trends are shown in the following tables:

Table 1. Hunting District 500/570 lion harvest, 1996-2018

Year	Quota		Harvest		Date Season Closed		Ages	
	Total	Female	Male	Female	Female	Total	Male	Female
96/97	3	None	1	1	NA	Feb 15	2	?
97/98	3	None	1	1	NA	Feb 15	2	2
98/99	3	None	0	0	NA	Apr 14		
99/00	3	None	1	3	NA	Feb 15	2	4,?,?
00/01	3	None	0	1	NA	Apr 14		2
01/02	4	None	0	1	NA	Apr 14		3
02/03	4	None	1	0	NA	Apr 14	?	
03/04	4	None	1	0	NA	Apr 14	2	
04/05	4	None	0	0	NA	Apr 14		
05/06	4	None	0	0	NA	Apr 14		
06/07	4	None	0	0	NA	Apr 14		
07/08	4	None	0	0	NA	Apr 14		
08/09	4	None	0	0	NA	Apr 14		
09/10	4	None	0	0	NA	Apr 14		
10/11	4	None	0	0	NA	Apr 14		
11/12	4	None	3	1	NA	Jan 30	3,3,5	?
12/13	4	None	2	1	NA	Apr 14	3,4	3
13/14	4	None	0	1	NA	Apr 14		?
14/15	4	None	1	1	NA	Apr 14	2	6
15/16	4	None	0	1	NA	Apr 14		1
16/17	4	None	3	1	NA	Mar 13	1,1,3	3
17/18	4	None	0	0	NA	Apr 14		
18/19	4	None	2	1	NA	Apr 14	3,4	5

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Table 2. Hunting District 502/575 lion harvest, 1996-2018

Year	Quota		Harvest		Date Season Closed		Ages	
	Total	Female	Male	Female	Female	Total	Male	Female
96/97	4	None	2	1	NA	Feb 15	2,3	6
97/98	4	None	1	3	NA	Jan 13	3	1,5,9
98/99	4	None	1	3	NA	Jan 29	2	1,2,5
99/00	4	None	1	2	NA	Apr 14	1	2,2
00/01	4	None	2	2	NA	Feb 10	2,3	1,2
01/02	4	None	0	3	NA	Apr 14		2,2,9
02/03	4	None	1	2	NA	Apr 14	3	2,2
03/04	4	None	1	0	NA	Apr 14	2	
04/05	4	None	3	1	NA	Jan 19	1,2,4	1
05/06	4	None	1	0	NA	Apr 14	?	
06/07	4	None	0	0	NA	Apr 14		
07/08	4	None	1	1	NA	Apr 14	1	3
08/09	4	None	2	1	NA	Apr 14	2,3	2
09/10	4	None	0	3	NA	Apr 14		1,2,3
10/11	4	None	1	0	NA	Apr 14	4	
11/12	4	None	1	0	NA	Apr 14	1	
12/13	4	None	2	0	NA	Apr 14	2,4	
13/14	4	None	0	1	NA	Apr 14		3
14/15	4	None	2	0	NA	Apr 14	2,3	
15/16	4	None	0	0	NA	Apr 14		
16/17	4	None	1	0	NA	Apr 14	?	
17/18	4	None	1	0	NA	Apr 14	?	
18/19	4	None	3	1	NA	Jan 29	2,2,4	3

Table 3. Hunting District 530/590 lion harvest, 1996-2018

Year	Quota		Harvest		Date Season Closed		Ages	
	Total	Female	Male	Female	Female	Total	Male	Female
96/97	3	None	0	0	NA	Feb 15		
97/98	3	None	1	2	NA	Jan 15	6	1,1
98/99	5	None	1	1	NA	Apr 14	2	1
99/00	5	None	3	1	NA	Apr 14	2,3,?	3
00/01	5	None	1	1	NA	Apr 14	6	3
01/02	5	None	1	2	NA	Apr 14	C	1,3
02/03	5	None	1	0	NA	Apr 14	?	
03/04	5	None	0	1	NA	Apr 14		3
04/05	5	None	1	3	NA	Apr 14	2	1,4,?
05/06	5	None	1	0	NA	Apr 14	?	
06/07	5	None	3	1	NA	Apr 14	1,2,2	3
07/08	5	None	2	0	NA	Apr 14	2,2	
08/09	5	None	3	0	NA	Apr 14	1,2,3	
09/10	5	None	4	1	NA	Apr 14	2,5,?,?	2
10/11	5	None	0	0	NA	Apr 14		
11/12	5	None	2	3	NA	Dec 10	2,?	1,1,2
12/13	5	None	3	2	NA	Feb 23	2,3,6	3,5
13/14	5	None	4	3	NA	Feb 1	3,4,5,?	1,2,?
14/15	8	None	4	1	NA	Apr 14	1,2,?,?	9
15/16	8	None	1	0	NA	Apr 14	4	
16/17	8	None	2	3	NA	Apr 14	2,4	1,1,3
17/18	8	None	3	5	NA	Jan 17	1,2,5	1,1,2,8,?
18/19	10	None	4	7	NA	Jan 27	2,4,5,5	2,2,3,4,4,5,7

### 2. Why is the proposed change necessary?

This change is proposed to simplify lion regulations in the R5 lion Eastern Ecoregion.

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3. **What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

The objective is to simplify harvest regulations, while maintaining a stable mountain lion across the R5 lion Eastern Ecoregion.

4. **How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints, etc.**

Lion population trends will continue to be monitored through analysis of lion harvest data.

5. **What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

Harvest rates (Dec 1 – Feb 15) are the best indicator available for long term lion population trends as depicted in the following charts:

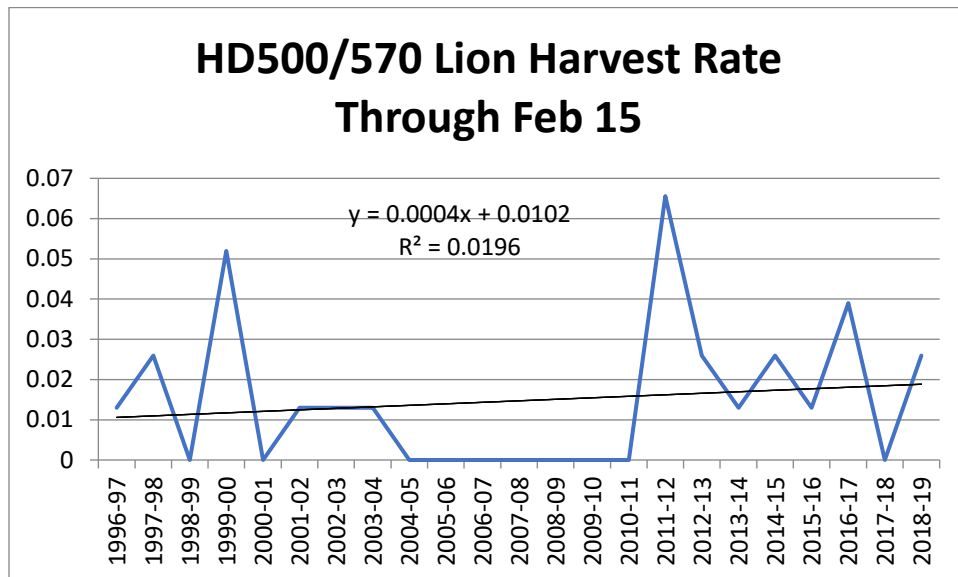


Figure 1. Lions harvested per day in HD 500/570 from December 1 through February 15, 1996-2018



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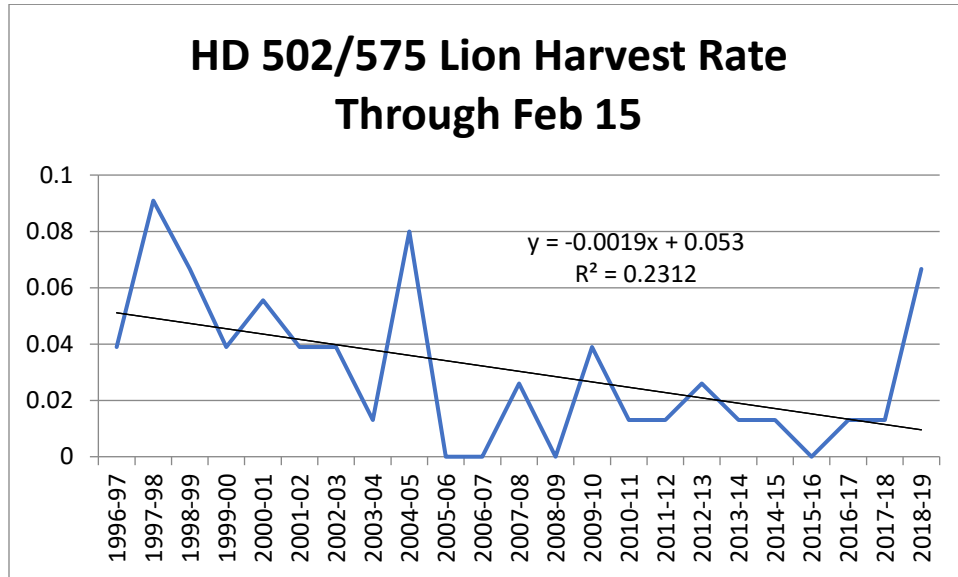


Figure 2. Lions harvested per day in HD 502/575 from December 1 through February 15, 1996-2018

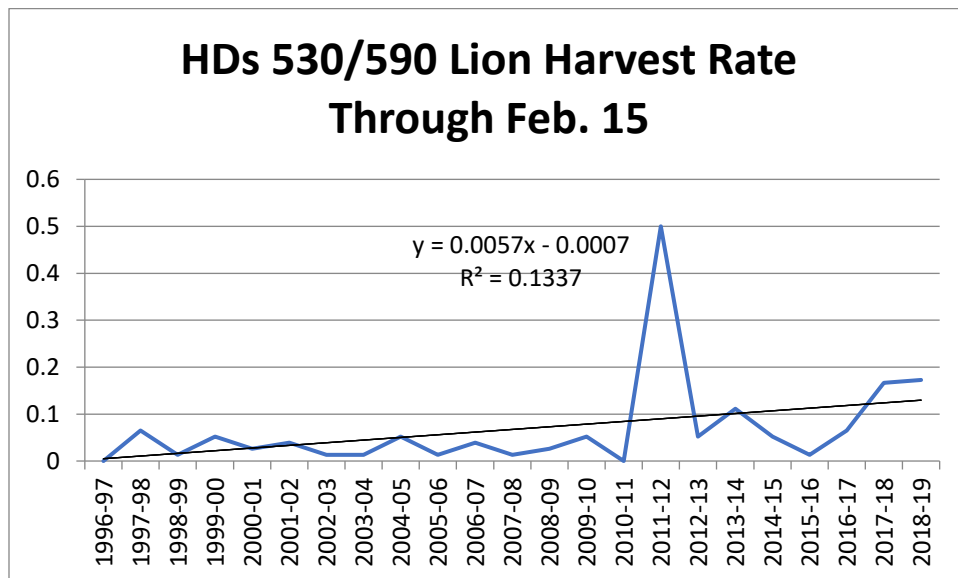


Figure 3. Lions harvested per day in HD 530/590 from December 1 through February 15, 1996-2018

For the R5 Eastern Ecoregion harvest rates are generally stable over time with slight increase in some portions of the ecoregion offset by slight decreases in other portions. The harvest objective is to maintain this stable trend.

### 6. How will this proposal influence this population status?

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This proposal is being made to simplify regulations rather than to change the level of influence on population status.

**7. Provide information related to any weather/habitat factors that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).**

- 1) Utilization transect information: None
- 2) Snow condition survey information: None
- 3) Describe access problems related to change, etc.  
Access will generally remain stable.
- 4) Overwinter survival information (i.e. bad winter lost what % of population): None

**8. Provide information relative to impacts to resident hunters, nonresident hunters and public & private land use.**

**Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).**

- 1) List specific sports groups or landowners:  
This proposal has generally not been discussed with local lion hunters or landowners.
- 2) Indicate if proposal was recommended by public - is it in response to a concern by sportspersons:  
The proposal is in response to internal and external requests for simpler regulations

**Submitted by:** Shawn T. Stewart

**Date:** October 10, 2019

**Approved:** \_\_\_\_\_  
Regional Supervisor / Date

**Disapproved / Modified by:** \_\_\_\_\_  
Name / Date

**Reason for Modification:**